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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/669,306

09/24/2003

John A. Darringer

16769

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23389

7590

04/07/2006

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EXAMINER

PUENTE, EMERSON C

ART UNIT

PAPER NUMBER

2113

DATE MAILED: 04/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/669,306	Applicant(s) DARRINGER ET AL.	
	Examiner Emerson C. Puente	Art Unit 2113	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/24/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is made **Non-Final**. Claims 1-21 have been examined.

Drawings

Figures 1-3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over "A Software Falsifier" by Daniel Brand referred hereinafter "Brand" in view of US Patent No. 6,901,581 of Schneider.

In regards to claim 1, 9, and 16, Brand discloses:

analyzing a computer program to generate an initial error report and a list of suspected error conditions (see top of page 2).

However, Brand fails to explicitly disclose:

generating a set of assertions and inserting the assertions into the computer program to determine if the suspected error conditions are valid.

Schneider discloses insertion of “print” statements and rerunning the failure to isolate the problem (see column 4 lines 10-15), indicating generating a set of assertions and inserting the assertions into the computer program to determine if the suspected error conditions are valid.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Brand and Schneider to inserting “print” statements into the code, thus indicating generating a set of assertions and inserting the assertions into the computer program to determine if the suspected error conditions are valid. A person of ordinary skill in the art would have been motivated to combine the teachings of Brand and Schneider because Brand discloses a need to search for the real cause of a symptom (see bottom of page 2), and inserting “print” statements into the program code, as per teachings of Schneider, isolates the bugs or errors in a computer program (see column 4 lines 10-15), thus determining the real cause of a symptom.

In regards to claim 2, 10, and 17, Schneider discloses:

wherein the step of inserting the assertions into the computer program includes the step of using the assertions to check the conditions for the suspected errors during program execution and to report the errors if the conditions are valid (see column 4 lines 10-15 and column 5 lines 45-50).

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In regards to claim 3, 4, 11, 12, and 18, Schneider discloses:

testing the computer program for any user supplied test cases (see column 5 lines 9-13).

if there are user supplied test cases, determining if the test cases lead the program execution to satisfy the suspected error conditions (see column 4 lines 10-15 and column 5 lines 45-50)

the step of inserting the assertions into the computer program includes the step of, if the test cases lead the program execution to satisfy the suspected error conditions, then using the assertions to determine if the suspected error occurs (see column 4 lines 10-15 and column 5 lines 45-50).

In regards to claim 5, 13, and 19, Schneider discloses:

generating an assertion for each of the errors and suspected errors (see column 4 lines 10-15); and

inserting into the computer program assertions for all of said errors and suspected errors (see column 4 lines 10-15).

In regards to claim 6, 14, and 20, Brand discloses:

analyzing the computer program includes the step of attempting to resolve the Boolean conditions that determine the program's control flow and execution (see middle page 5).

In regards to claim 7, 15, and 21, Brand discloses:

wherein the step of attempting to resolve the Boolean conditions includes the step of using a strong static analysis to analyze the computer program (see abstract and middle page 5).

In regards to claim 8, Brand discloses:

wherein the step of analyzing the computer program includes the step of using a program verifier to analyze the computer program (see top of page 2).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

See PTO 892.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emerson C Puente whose telephone number is (571) 272-3652. The examiner can normally be reached on 8-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert W Beausoliel can be reached on (571) 272-3645. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ecp


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